EN.540.635 "Software Carpentry"

Lab 2 - Boot Camp

Skills to be addressed in the lab:

1. Booleans, integers, floats, strings

2. Lists

3. Control flow statements

4. For & while loops

Introduction: We've learned the basic Python syntax, variable types, and control statements. It's time for us to get some practice. The below are a series of challenges to complete. The final one consists of an art contest; please put your best foot forward! **As you do these exercises, make sure not to hard-code the answer. Try to make your code as robust as possible, using loops, variables, and proper control flow.**

The Challenges:

1. **Backward Numbers** - Print out numbers 1-10 in reverse order.

2. **Summing Cubes** - Given a number n, return $\Sigma_{i=1}^{n} i^3$.

3. **Palindrome Checker** - Write a function that returns true if a text string is a palindrome; false otherwise. Remember, a palindrome is a word that reads the same forward as it does backward.

4. **Don't Go Negative** - Let's code up a simple game that involves two players. The game is played like this: each player starts with 10 points. Each player takes turn rolling a fair die. If the number is even, that many points are deducted from the player's score; if the number is odd, that many points are added to the player's score. The first person to go negative loses. Print whom the winner is! Hint: you may want to (a) import the *random* class and (b) temporarily print out various turns to ensure your program is working as expected.